

REMARKS

Claims 1, 3-5, 8, 10, 11, 15 and 17-28 are now pending in the present application. The recent telephonic interview with Examiner Kessler is hereby noted with appreciation. Newly presented claims 25 and 27 find support in the specification at page 1, line 10 and page 16, line 15, for instance. Claims 26 and 28 find support in the specification, for example, at page 17, line 11. The newly presented claims do not introduce any new matter.

Claims 1, 3-5, 8, 10, 11, 15 and 17-24 were rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/14399 in view of US Patent 6,607,610 to Carey et al. and further in view of Wada et al. The cited references fail to render obvious the above claims.

The present invention is a pretreatment method for coating comprising treating a substance to be treated by a chemical conversion coating agent to form a chemical conversion coat, the chemical conversion coating agent comprising specific components, and the substance comprising a plurality of metal materials.

Prior to the present invention, although it had been known that an aluminum surface could be treated by a composition comprising zirconium, titanium or hafnium, there was a problem with treating an iron material with such a composition, in that adequate adhesion of the metal with the coating film and the corrosion resistance after coating could not be attained. (See Line 25 of page 2 of present specification)

The chemical properties of metal surfaces are very different when the metal element of the surface is different. Especially, the chemical properties of aluminum and iron differ quite significantly from each other. In view of these differences, compositions comprising zirconium, titanium or hafnium have been used for aluminum surface treatment but not used for zinc or iron surface treatment. For a long time, the surface treatment used for the zinc or iron has generally been with phosphate.

This is important background to keep in mind when comparing the present invention and the prior art. Considering such a background, the pretreatment method of aluminum surface could not be a favorable method for iron or zinc in many cases.

To apply a composition comprising zirconium, titanium or hafnium used for aluminum to an iron surface, would not be deemed appropriate by persons of ordinary skill in the art since that composition does not have good properties in corrosion resistance.

Namely, even when an aluminum surface could be treated by some composition, the result of the application of the identical composition to an iron or zinc surface could not be predictable to persons of ordinary skill in the art.

WO'399 suggests the chemical conversion composition used for the aluminum substrate but it does not disclose the additional materials in the amounts, which is subject matter of the present invention.

In particular, a difference is the content of components recited in the claims and WO'399. WO'399 suggests that the aminosilanes are generally available in an aqueous solution of from about 90% to 100%, by weight of the total unhydrolyzed aminosilane added to the solution. WO'399 further mentions that fluorine-containing inorganic compounds such as fluorotitanic acid, fluorozirconic acid, fluorohafnic acid and mixtures thereof are generally available in aqueous solutions of about 50% to about 60%, by weight. The treatment solution of WO'399 comprises from about 0.2% to about 3%, more preferably from about 0.2% to about 1%, by weight, of the aminosilane solution and preferably from about 0.1% to about 2%, more preferably from about 0.1% to about 0.5%, by weight, of the fluorine containing inorganic compound solution.

It is clear that the content of the component, "at least one member selected from the group consisting of amino group-containing silane coupling agents, hydrolysates thereof and polymers thereof" employed according to the present invention differs significantly from WO'399. In the present invention, the amount of silane component contained in the composition is 50 to 500 ppm which is much less than that of WO'399.

As mentioned during said interview, the amount in claim 1 "a content of 50 to 500 ppm as a concentration of solid matter" is important in achieving results obtainable according to the present invention. This difference could not be predictable from the prior art. Therefore, the present invention is not obvious over the description of WO'399.

To further demonstrate the patentability of the present invention, see the Declaration under 37 CFR 1.132 filed with our prior response. In the Declaration, compositions containing various amount of silane components were tested. Tests are performed for aluminum, zinc and iron. From the results of these examinations, the importance of the amount of silane components is clearly demonstrated. Only the composition containing the silane components in the restricted amount in the present claim provides good results.

Carey et al fail to overcome the above discussed deficiencies of WO'399 with respect to rendering obvious the present invention. In particular, Carey et al do not suggest that compositions used as pretreatments for aluminum that is to be treated by a chemical conversion chemical conversion coating agent would likewise be suitable for a substance that is to be treated by a chemical conversion chemical conversion coating agent. Carey et al. merely alludes to the possibility of employing their compositions on a variety of metals but fail to dispel the conventional knowledge in the art of the differences in reactivity in the conversion treatment between aluminum and iron. During said telephonic interview, the examiner stated his appreciation for such differences. Furthermore the difference of reactivity in the conversion treatment between iron and aluminum substrate is adequately demonstrated in the declaration filed along with our prior response. Please note that claims 17-24 recite "iron" specifically.

In addition, Carey et al fail to even remotely suggest the amino group-containing silane coupling agents, hydrolysates thereof or polymers thereof, as recited in the present claims. Accordingly, even if Carey et al were properly combinable with WO'399, the present invention would still not be suggested. Moreover, Carey et al employ a phosphate in their compositions as well as requiring a polyphenolamine.

The Examiner pointed out that the description of Carey et al. for motivation to combine WO'399 and Wada et al. Carey et al. suggest a treatment agent containing zirconium which is applied for post-conversion. In other words, it is after treating the surface of an iron substrate with phosphate when the treatment with the agent containing zirconium and fluorine is carried out. In Carey et al., the phosphate compound is used as conversion coating agent (see Example 16, column 8, lines 57-61). The Zr-containing agent of Carey et al. is not described as chemical

conversion coating agent. Therefore, it does not provide the motivation to achieve the present invention.

As mentioned above, since steps in a method are different between Carey et al. and the present invention, there could not be motivation for the combination of WO'399, Carey et al and Wada et al.

Therefore, the present invention is not obvious from these references.

The mere fact that cited art may be modified in the manner suggested in the Office Action does not make this modification obvious, unless the cited art suggest the desirability of the modification. No such suggestion appears in the cited art in this matter. The Examiner's attention is kindly directed to *In re Lee* Case No. 00-1158 (Fed. Cir. Jan. 2002) *In re Dembiczak et al.* 50 USPQ2d. 1614 (Fed. Cir. 1999), *In re Gordon*, 221 USPQ 1125 (Fed. Cir. 1984), *In re Laskowski*, 10 USPQ2d. 1397 (Fed. Cir. 1989) and *In re Fritch*, 23, USPQ2d. 1780 (Fed. Cir. 1992).

In *Dembiczak et al.*, supra, the Court at 1617 stated: "Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. See, e.g., *C.R. Bard, Inc., v. M3 Sys., Inc.*, 157 F.3d. 1340, 1352, 48 USPQ2d. 1225, 1232 (Fed. Cir. 1998) (describing 'teaching or suggestion motivation [to combine]' as in 'essential evidentiary component of an obviousness holding'), *In re Rouffet*, 149 F.3d 1350, 1359, 47 USPQ2d. 1453, 1459 (Fed. Cir. 1998) ('the Board must identify specifically...the reasons one of ordinary skill in the art would have been motivated to select the references and combine them');..."

Also, the cited art lacks the necessary direction or incentive to those of ordinary skill in the art to render a rejection under 35 USC 103 sustainable. The cited art fails to provide the degree of predictability of success of achieving the properties attainable by the present invention needed to sustain a rejection under 35 USC 103. See *Diversitech Corp. v. Century Steps, Inc.* 7 USPQ2d 1315 (Fed. Cir. 1988), *In re Mercier*, 185 USPQ 774 (CCPA 1975) and *In re Naylor*, 152 USPQ 106 (CCPA 1966).

Moreover, the properties and results of the subject matter and improvements which are inherent in the claimed subject matter and disclosed in the specification are to be considered when evaluating the question of obviousness under 35 USC 103. See *Gillette Co. v. S.C. Johnson & Son, Inc.*, 16 USPQ2d. 1923 (Fed. Cir. 1990), *In re Antonie*, 195, USPQ 6 (CCPA 1977), *In re Estes*, 164 USPQ 519 (CCPA 1970), and *In re Papesch*, 137 USPQ 43 (CCPA 1963).

No property or result can be ignored in determining patentability and comparing the claimed invention to the cited art. Along these lines, see *In re Papesch*, supra, *In re Burt et al*, 148 USPQ 548 (CCPA 1966), *In re Ward*, 141 USPQ 227 (CCPA 1964), and *In re Cescon*, 177 USPQ 264 (CCPA 1973).

In addition, Applicants would appreciate receiving the Examiner's comments concerning Declaration under 37 CFR 1.132 filed with our response to the last office action.

It is again noted that references N, O and P cited by the examiner on form PTO-892 sent with the office action of October 17, 2005 incorrectly state the Countries. The correct countries are WIPO, Europe and Europe, respectively. It is again requested that a corrected PTO-892 be issued.

In view of the above amendment, applicant believes the pending application is in condition for allowance. In the event the Examiner believes that another interview might serve to advance the prosecution of this application in any way, the undersigned attorney is available at the telephone number noted below.

Please charge any fee due with this response to our Deposit Account No. 22-0185, under Order No. 21581-00314-US from which the undersigned is authorized to draw.

Dated:

Respectfully submitted,

Electronic signature: /Burton A. Amernick/
Burton A. Amernick
Registration No.: 24,852
CONNOLLY BOVE LODGE & HUTZ LLP
1990 M Street, N.W., Suite 800
Washington, DC 20036
(202) 331-7111 (Phone)
(202) 293-6229 (Fax)
Attorney for Applicant